REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested.

The Examiner is, of course, quite correct that the USPTO is not bound by the decision of any other patent office regarding the allowability of subject matter.

The applicants are also mindful of the fact that USPTO Examiners do not read limitations into the claims from the specification. However, the Examiner is respectfully reminded that the USPTO practice does require that the claims be read to have the broadest "reasonable" construction "in light of the specification".

The rejection of claims 1, 3 and 5 under 35 U.S.C. §102 as allegedly anticipated by Porikli – and the rejection of claims 2 and 6 under 35 U.S.C. §103 as allegedly being made "obvious" based on Porikli in view of Sifakis – are both again respectfully traversed.

The amended claims now include further features and steps so as to better distinguish from the cited art. For example, the claims now include a comparison step with an earlier saved segmentation mask which is not present in Porikli or Sifakis.

The Porikli text relied upon by the Examiner reads:

> "...to speed up the filtering process, we developed a fast erosion-dilation filter. Since we have a binary foreground–background map, we transfer each 32 horizontal pixel values into a 4-byte integer number. By shifting right and left, and applying logical inclusion operation to the upper and lower

> rows, we apply morphological dilation. In the second pass, logical exclusion is applied instead of inclusion similarly to erode the image. Thus we achieve 32 times faster filtering by taking advantage of the architecture."

As previously argued, the preceding paragraph makes it clear that the Porikli filtering operation is concerned with removing speckle noise. The above paragraph provides an explanation of how the speckle noise is removed, in this case using morphological dilation (logical inclusion) followed by logical exclusion to erode the image. The advantage of the particular method used is speed.

The applicant does not claim to have invented speckle noise reduction. Paragraph [0057] of the applicants' published application describes how speckle noise reduction is used to remove erroneously segmented pixels using a morphological operator. A person skilled in the art will recognize that the speckle noise removal operation in Porikli is simply an alternative to the operation described in paragraph [0057] of the present application.

In Porikli, connected component analysis is performed right after the speckle noise reduction. As shown in Fig. 2, the present invention includes an additional process between speckle noise reduction (e.g., step s2.17) and connected component analysis (e.g., step s2.24) to improve performance of object detection performed by the connected component analysis. This additional process is described in paragraphs

[0058] and [0059] of the present application and shown in the exemplary embodiment of Fig. 2 (e.g., steps s2.18, 2.20 and 2.22).

This new step b) (e.g., as described in paragraph [0049]) relates to storing a segmentation mask obtained from the initial segmentation of step a). This feature is not taught in Porikli.

As in the applicants' invention, the speckle noise reduction feature in Porikli is applied across the entire image. In the first stage morphological dilution, the value of a particular picture element is determined by the value of surrounding picture elements. Therefore, it is possible that speckle noise surrounding foreground picture elements will be reclassified (segmented) as a foreground pixel. Similarly, speckle noise in the form of a foreground picture element, but surrounded by background picture elements, would be reclassified as a background picture element.

However, the Examiner is incorrect in asserting that step d) (prior to the above amendment; now step f) in claim 1) is disclosed in Porikli. Firstly, the Examiner cites the term "second pass" in Porikli at paragraph 4, lines 12-13, as disclosing "repeating in step d". This is incorrect because a skilled person would continue to read the rest of the sentence which states that, "In the second pass, logical exclusion is applied **instead of** inclusion similarly to erode the image." Since the first pass (inclusion) is different from the second pass (exclusion), there is no repetition taught by Porikli. To the contrary – Porikli teaches away from this feature of applicants' claim 1.

Section 4, at paragraphs 1 and 2 of Porikli, describes the speckle noise removal process, while paragraph 3 discusses connected component analysis to identify the pixels as objects. As above, Porikli only teaches a speckle noise removal filter having two stages, logical inclusion followed by logical exclusion. There is nothing in these paragraphs to teach the limiting condition of "until picture elements which were not segmented as foreground after step a) would be or are segmented as foreground" (claim 1 prior to the above amendment) – let alone the amended claim condition. Even if a person skilled in the art did infer a notion of repeating the speckle noise reduction process from Porikli, he/she would only repeat it a set number of times. There is nothing to suggest repeating the morphological dilution operation until the claimed condition is satisfied.

If the Examiner continues to believe that Porikli does disclose these features, then it is respectfully requested that such be particularly pointed out and explained.

The amended claims add a new step e) (e.g., described in paragraph [0059]) that relates to comparing the results of the morphological dilution against the segmentation mask stored in step b). This is also not taught in Porikli.

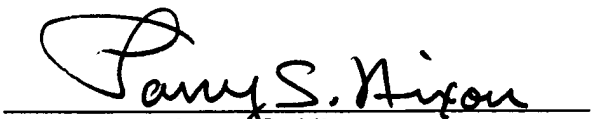
The above amended claims contain features that are clearly novel over Porikli – and non-obvious over Porikli and/or the combination of Porikli and Sifakis. The disclosure of Sifakis does not remedy the above-noted deficiencies of Porikli. See also the further limitations of dependent claims 2 and 6.

Given such fundamental deficiencies as already noted in the cited art, it is not necessary at this time to detail additional deficiencies of this cited art with respect to other aspects of the rejected claims. Suffice it to note that, as a matter of law, it is not possible to support even a *prima facie* case of anticipation unless the cited references teach each and every feature of the rejected claims – and, similarly, it is not possible to support even a *prima facie* case of "obviousness" unless the cited art teaches or suggests each and every feature of the rejected claims.

Accordingly, this entire application is now believed to be in allowable condition, and a formal notice to that effect is earnestly solicited.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: 
Larry S. Nixon
Reg. No. 25,640

LSN:lef

901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100